

What is claimed is:

1. A statistical multiplex system, comprising:

a plurality of image encoding means for encoding a plurality of program data, each of which includes image data, and outputting the resultant;

at least one information encoding means for encoding auxiliary data other than the program data, and outputting the resultant;

multiplex means for multiplexing output data of each of the image encoding means and the information encoding means; and

statistical multiplex control means for setting a code rate for the information encoding means, the code rate representing an amount of codes to be outputted per unit time, acquiring an encoding difficulty level which indicates a level of difficulty in encoding for each program data, and assigning code rates to each of the image encoding means on the basis of the code rate for the information encoding means and the encoding difficulty level.

2. A statistical multiplex system according to claim 1, wherein the statistical multiplex control means determines an image reference value by subtracting the code rate for the information encoding means from a gross code rate permissible, and assigns the code rates to each of the image encoding means within a limit of the image reference value.

3. A statistical multiplex system according to claim 2, wherein the statistical multiplex control means sets temporary code rates, which are temporary target values of the code rates, for each of the image encoding means on the basis of the encoding difficulty levels, and revises the temporary code rates so that the sum of the temporary code rates comes close to the image reference value within the limit thereof, thereby assigns the code rates to each of the image encoding means.

4. A statistical multiplex system according to claim 1, wherein the statistical multiplex control means comprises:

a memory for temporarily storing the output data from the information encoding means and thereafter outputting the data to the multiplex means; and

means for determining the code rate for the information encoding means on the basis of an amount of data remaining in the memory.

5. A statistical multiplex controller used for a statistical multiplex system which includes a plurality of image encoding means for encoding a plurality of program data, each of which includes image data, and outputting the resultant; at least one information encoding means for encoding auxiliary data other than the program data and outputting the resultant; and multiplex means for multiplexing output data of each of the image encoding means and the information encoding means, comprising;

means for setting a code rate for the information encoding means,

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the code rate representing an amount of codes to be outputted per unit time;

means for acquiring an encoding difficulty level which indicates a level of difficulty in encoding for each program data; and

means for assigning code rates to each of the image encoding means on the basis of the code rate for the information encoding means and the encoding difficulty level.

6. A statistical multiplex controller according to claim 5, wherein the means for assigning determines an image reference value by subtracting the code rate for the information encoding means from a gross code rate permissible, and assigns the code rates to each of the image encoding means within a limit of the image reference value.

7. A statistical multiplex controller according to claim 6, wherein the means for assigning sets temporary code rates, which are temporary target values of the code rates, for each of the image encoding means on the basis of the encoding difficulty levels, and revises the temporary code rates so that the sum of the temporary code rates comes close to the image reference value within the limit thereof, thereby assigns the code rates to each of the image encoding means.

8. A method of statistical multiplex used for a statistical multiplex system which includes a plurality of image encoding means for

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encoding a plurality of program data, each of which includes image data, and outputting the resultant; at least one information encoding means for encoding auxiliary data other than the program data, and outputting the resultant; and multiplex means for multiplexing output data of each of the image encoding means and the information encoding means,

the method comprising steps of:

setting a code rate for the information encoding means, the code rate representing an amount of codes to be outputted per unit time;

acquiring an encoding difficulty level which indicates a level of difficulty in encoding for each program data; and

assigning code rates to each of the image encoding means on the basis of the code rate for the information encoding means and the encoding difficulty level.

9. A method of statistical multiplex according to claim 8, wherein the step of assigning includes steps of:

determining an image reference value by subtracting the code rate for the information encoding means from a gross code rate permissible; and

assigning the code rates to each of the image encoding means within a limit of the image reference value.

10. A method of statistical multiplex according to claim 9, wherein the step of assigning includes steps of:

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setting temporary code rates, which are temporary target values of the code rates, for each of the image encoding means on the basis of the encoding difficulty levels; and

revising the temporary code rates so that the sum of the temporary code rates comes close to the image reference value within the limit thereof,

thereby assignment of the code rates to each of the image encoding means is performed.

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